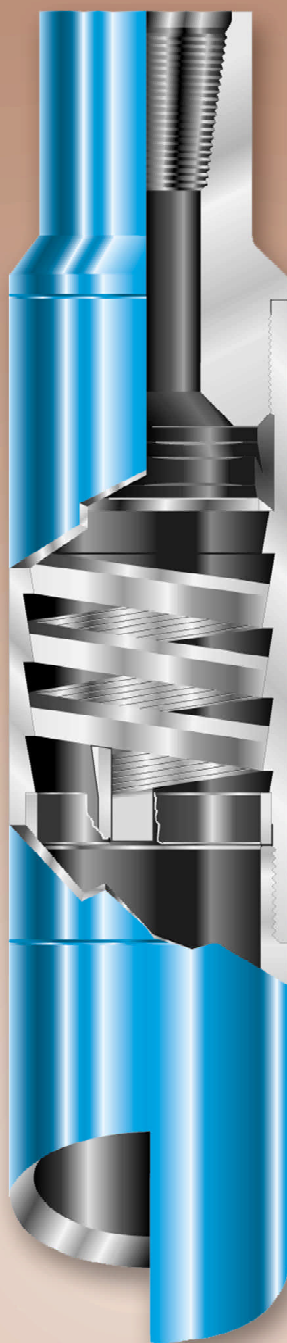


SERIES 150 OVERSHOTS SUPPLEMENT

Instruction Manual 1150A



Series 150 Releasing and Circulating Overshots Supplement



NATIONAL OILWELL VARCO

One Company Unlimited Solutions

Series 150 Overshots Supplement

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Series 150 Overshots Supplement

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The designs and specifications for the tools described in this instruction manual were in effect at the time this manual was approved for printing. National Oilwell Varco, whose policy is one of continuous improvement, reserves the right to discontinue models at any time, or to change designs and specifications without notice or without incurring obligation.

Fourth Printing, September 2005

Explanation

The lists of assemblies and accessories in Instruction Manual 1150 have been reduced to the most popular Overshots and parts worldwide. This has been done to make it easier for the customer to quickly find the information they require and also for the ease of transmitting the electronic version of the file.

The Bowen Series 150 Overshot product line consists of many different sizes and types of assemblies and items. A list of over 225 of these is in this Supplemental Instruction Manual 1150A. If a locally popular assembly is not listed in Manual 1150, it will most probably be listed in Manual 1150A. However, this is still not a complete list. There are additional assemblies not listed.

The standard Series 150 Overshot is a right-hand operation tool with right-hand threads, but there are many specials offered. Some of the other tools made are right-hand tools with left-hand threads, left-hand tools with left-hand threads, left-hand tools with right-hand threads, tools for H₂S service, tools for CO₂ service, tools for H₂S and CO₂ service, very high strength tools, very thin wall tools, and sizes ranging from 2-5/16" OD to above 32" OD.

Even with all the possible combinations, National Oilwell continues to design new assemblies to add to a product line that was started almost 60 years ago!

Specifications

Maximum Catch Size (Spiral)		2-1/8	2-3/8	2-3/8	2-3/8	2-3/8	2-7/8	2-7/8	2-7/8	2-7/8
Maximum Catch Size (Basket)		1-3/4	2	1-7/8	1-7/8	1-7/8	2-1/2	2-3/8	2-3/8	2-3/8
Overshot O.D.		2-7/8	3-1/8	3-1/4	3-1/2	4-1/8	3-5/8	3-3/4	4	4-1/8
Standard Box Connection		Per Customer Order								
Type		S.H.	X.S.H.	S.H.	F.S.	F.S.	X.S.H.	S.H.	F.S.	F.S.
Complete Assembly (Dressed with Spiral Parts)	Part No.	16395	9305	C-5072	C-4741	1443	N-9270	C-1827	C-4736	4390
	Weight	37	42	44	53	70	51	54	64	70

Replacement Parts

Top Sub	Part No.	16396	9311	A-5073	B-4742	1445	L-9276	A-1834	A-4737	4391
	Weight	18	20	21	24	33	26	27	31	33
Bowl	Part No.	16397	9306	B-5074	B-4743	1446	M-9271	B-1828	B-4738	4392
	Weight	8	9	10	13	18	11	12	15	18
Packer	Part No.	16398	9309	B-5075	L-1453	1453	M-8550	A-1831	L-809-RS	4398
	Weight	1/8	1/8	1/8	1/8	1/8	1/4	1/4	1/4	3/8
Packer Seat Ring	Part No.	16399	9310	A-5076	A-4744	1447	L-9274	A-1832	A-4739	4395
	Weight	1/16	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Spiral Grapple	Part No.	16392	9307	B-5077	B-782	1448	M-9272	A-1829	M-805	805
	Weight	3/4	3/4	3/4	3/4	3/4	1-1/8	1-1/8	1-1/8	1-1/8
Spiral Grapple Control	Part No.	16393	9308	A-5078	B-783	1449	L-9273	A-1830	M-806	806
	Weight	5/8	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Standard Guide	Part No.	16394	9312	A-5079	A-4745	1450	L-9275	A-1833	A-4740	4393
	Weight	10	11	11	14	17	11	12	16	17

Basket Parts

Basket Grapple	Part No.	16392	9307	B-5077	B-782	1448	M-9272	A-1829	M-805	805
	Weight	3-1/2	3-3/4	3-3/4	3-3/4	3-3/4	5-5/8	5-5/8	5-5/8	5-5/8
Basket Grapple Control	Part No.	16393	9308	A-5078	B-783	1449	L-9273	A-1830	M-806	806
	Weight	2	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4
Mill Control Packer	Part No.	16398-R	9309-R	B-5075-R	L-1453-R	1453-R	8550-R	A-1831-R	L-809-RS	4398-R
	Weight	2-1/2	3	3	3	3	3	3	3	3

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
- XFS (Extra Full Strength)** Engineered for extreme abuse.
- SFS (Semi Full Strength)** Engineered for special hole conditions commensurate with maximum strength.
- SH (Slim Hole)** Engineered to withstand heavy pulling strain only.
- XSH (Slim Hole)** Engineered for pickup jobs only.

RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)		3-1/16	3-1/8	3-1/8	3-1/8	3-1/8	3-1/4	3-1/4	3-1/4	3-3/8	3-3/8
Maximum Catch Size (Basket)		2-19/32	2-5/8	2-5/8	2-5/8	2-5/8	2-3/4	2-3/4	2-3/4	2-7/8	2-7/8
Overshot O.D.		4-3/16	4	4-1/8	4-1/8	4-1/4	4-1/8	4-3/8	4-3/8	4-1/4	4-3/8
Standard Box Connection		Per Customer Order									
Type		F.S.	S.H.	F.S.	F.S.	F.S.	S.H.	F.S.	F.S.	S.H.	F.S.
Complete Assembly	Part No.	C-5098	C-5104	8220	N-9105	C-4822	C-5115	9630	C-5112	C-5126	9635
(Dressed with Spiral Parts)	Weight	72	62	70	70	76	65	82	82	82	67

Replacement Parts

Top Sub	Part No.	A-5099	A-5105	8221	L-9106	A-4823	A-5116	9631	A-5113	A-5127	9636
	Weight	33	31	33	33	35	32	38	38	33	36
Bowl	Part No.	B-5100	B-5106	8223	M-9107	B-4824	B-5117	9632	B-5114	B-5128	9637
	Weight	18	15	18	18	19	16	21	21	17	20
Packer	Part No.	L-7090	B-5107	809	L-809	L-7090	B-5118	1517	L-1517	B-4625	4185
	Weight	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Packer Seat Ring	Part No.	A-4402	A-5108	1748	L-1748	A-790	A-5119	1521	A-3204	A-4626	4193
	Weight	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Spiral Grapple	Part No.	B-4403	B-5109	1741	M-1741	B-791	B-5120	1518	B-3205	B-4627	4195
	Weight	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Spiral Grapple Control	Part No.	B-4404	A-5110	1747	L-1747	B-792	A-5121	1520	B-3206	B-4628	4196
	Weight	7/8	1	1	1	1	1	1-1/8	1-1/8	1-1/8	1-1/4
Standard Guide	Part No.	A-4405	A-5111	1746	L-1746	A-793	A-5122	1519	A-3207	A-4629	4197
	Weight	18	13	17	17	19	14	20	20	14	20

Basket Parts

Basket Grapple	Part No.	B-4403	B-5109	1741	M-1741	B-791	B-5120	1518	B-3205	B-4627	4195
	Weight	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2
Basket Grapple Control	Part No.	B-4404	B-5110	1747	L-1747	B-792	A-5121	1520	B-3206	B-4628	4196
	Weight	2-5/8	3	3	3	3	3	3-3/8	3-3/8	3-3/8	3-3/4
Mill Control Packer	Part No.	L-7090-R	B-5107-R	809-R	L-809-R	L-7090-R	B-5118-R	1517-R	L-1517-R	B-4625-R	4185-R
	Weight	3-1/2	4	4	4	4	4	4-1/2	4-1/2	4-1/2	5

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
- XFS (Extra Full Strength)** Engineered for extreme abuse.
- SFS (Semi Full Strength)** Engineered for special hole conditions commensurate with maximum strength.
- SH (Slim Hole)** Engineered to withstand heavy pulling strain only.
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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	3-3/8	3-3/8	3-1/2	3-1/2	3-1/2	3-1/2	3-21/32	3-21/32	3-21/32	3-21/32	3-21/32
Maximum Catch Size (Basket)	2-7/8	2-7/8	2-7/8	3	2-7/8	2-7/8	3-1/8	3-1/8	3-1/8	3-1/8	3-1/8
Overshot O.D.	4-3/8	4-1/2	4-1/2	4-5/8	4-13/16	5-1/8	4-1/2	4-1/2	4-11/16	4-11/16	5
Standard Box Connection	Per Customer Order										
Type	F.S.	F.S.	S.H.	F.S.	F.S.	F.S.	S.H.	S.H.	F.S.	F.S.	F.S.
Complete Assembly Part No.	N-9635	C-5123	C-3793	1255	C-4732	C-4561	17420	17201	N-9109	12275	C-5148
(Dressed with Spiral Parts) Weight	77	86	86	90	99	118	77	77	83	83	107

Replacement Parts

Top Sub	Part No.	L-9636	A-5124	A-3794	1246	A-4733	A-4562	17421	17202	L-9110	12276	A-5149
	Weight	36	40	40	42	45	48	30	30	40	40	49
Bowl	Part No.	M-9637	B-5125	A-3795	1248	B-4734	B-4563	17422	17203	M-9111	12277	B-5150
	Weight	20	22	22	24	26	34	19	19	21	21	28
Packer	Part No.	L-4185	L-6515	L-6515	1253	L-168	L-168	17423	L-6665	L-6665	6665	B-3219
	Weight	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2	1/2
Packer Seat Ring	Part No.	L-4193	39774	A-3358	1254	A-2173	A-2173	17424	A-4338	L-6666	43496	A-4409
	Weight	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Spiral Grapple	Part No.	M-4195	B-3359	B-3607	1249	M-164	M-164	17425	B-4339	L-6662	6662	B-4410
	Weight	1-1/8	1-1/2	1-1/2	1-1/2	2-3/8	2-3/8	1-3/4	1-3/4	1-3/4	1-3/4	2-1/4
Spiral Grapple Control	Part No.	L-4196	B-3360	B-3608	1250	M-185	M-185	17426	B-4340	L-6674	6674	B-4411
	Weight	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2
Standard Guide	Part No.	L-4197	A-3361	A-3609	1252	A-4735	A-2176	17427	17204	L-6667	6667	A-4412
	Weight	20	21	21	23	24	32	16	16	18	18	26

Basket Parts

Basket Grapple	Part No.	M-4195	B-3359	B-3607	1249	M-164	M-164	17425	B-4339	L-6662	6662	B-4410
	Weight	7-1/2	7-1/2	7-1/2	7-1/2	11-7/8	11-7/8	8-3/4	8-3/4	8-3/4	8-3/4	11-1/4
Basket Grapple Control	Part No.	L-4196	B-3360	B-3608	1250	M-185	M-185	17426	B-4340	L-6674	6674	B-4411
	Weight	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4	4-1/2
Mill Control Packer	Part No.	L-4185-R	L-6515-R	L-6615-R	1253-R	L-168-R	L-168-R	17423-R	L-6665-R	L-6665-R	6665-R	B-3219-R
	Weight	5	5	5	5	5	5	5	5	5	5	6

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
- XFS (Extra Full Strength)** Engineered for extreme abuse.
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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	3-3/4	3-3/4	3-3/4	3-13/16	3-13/16	3-13/16	3-7/8	3-7/8	3-7/8	3-7/8	4
Maximum Catch Size (Basket)	3-1/4	3-1/8	3-1/8	3-5/16	3-7/32	3-3/16	3-3/8	3-3/8	3-1/4	3-1/4	3-1/2
Overshot O.D.	4-11/16	5	5-1/8	4-7/16	4-11/16	5-1/8	4-5/8	4-3/4	5-3/16	5-1/4	4-7/8
Standard Box Connection	Per Customer Order										
Type	S.F.S.	F.S.	X.F.S.	S.H.	S.H.	F.S.	S.H.	S.H.	F.S.	F.S.	S.H.
Complete Assembly Part No.	N-9120	9725	C-4686	C-9773	C-9296	C-7497	C-6230	C-5139	C-5136	9515	5168
(Dressed with Spiral Parts) Weight	83	107	113	80	86	115	82	90	118	120	95

Replacement Parts

Top Sub	Part No.	L-9110	9726	A-4687	A-9774	A-9297	A-7498	A-6231	A-5140	A-5137	9516	5155
	Weight	40	49	53	38	44	54	24	46	56	57	48
Bowl	Part No.	M-9121	9727	B-4688	B-9775	B-9298	B-7499	B-6232	B-5141	B-5138	9517	5156
	Weight	21	28	29	16	21	29	20	22	30	31	24
Packer	Part No.	M-9122	811	A-811	L-6163	B-9299	B-2196	60947	A-1707	B-972	856	5157
	Weight	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Packer Seat Ring	Part No.	L-6666	812	A-812	A-9776	A-9300	A-7500	A-1708	A-1708	L-857	857	5158
	Weight	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Spiral Grapple	Part No.	L-9123	814	B-814	B-9777	B-9301	B-2192	B-6234	B-1709	M-859	859	5159
	Weight	2	2-1/4	2-1/4	1-3/4	1-3/4	2-1/4	1-3/4	1-3/4	2-1/4	2-1/4	2
Spiral Grapple Control	Part No.	L-9124	815	A-815	A-9778	A-9302	B-2193	A-6235	A-1710	L-875	875	5160
	Weight	1-1/2	1-1/2	1-1/2	1-1/4	1-1/4	1-1/2	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2
Standard Guide	Part No.	L-9125	816	A-816	A-9779	A-9309	A-7501	A-6236	A-1711	L-876	876	5169
	Weight	18	26	27	15	17	27	6	18	28	28	19

Basket Parts

Basket Grapple	Part No.	L-9123	814	B-814	B-9777	B-9301	B-2192	B-6234	B-1709	M-859	859	5159
	Weight	8-3/4	11-1/4	11-1/4	8-3/4	8-3/4	11-1/4	8-3/4	8-3/4	11-1/4	11-1/4	10
Basket Grapple Control	Part No.	L-9124	815	A-815	A-9778	A-9302	B-2193	A-6235	A-1710	L-875	875	5160
	Weight	3-3/4	4-1/2	4-1/2	3-3/4	3-3/4	4-1/2	3-3/4	4-1/2	4-1/2	4-1/2	4-1/2
Mill Control Packer	Part No.	L-9122-R	811-R	A-811-R	L-6163-R	B-9299-R	B-2196-R	A-1707-R	A-1707-R	B-972-R	856-R	5157-R
	Weight	5	6	6	5	5	6	5	6	6	6	6

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
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SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	4	4-1/8	4-1/8	4-1/4	4-1/4	4-1/4	4-1/2	4-1/2	4-1/2	4-5/8	4-5/8
Maximum Catch Size (Basket)	3-3/8	3-5/8	3-1/2	3-3/4	3-3/4	3-11/16	3-7/8	3-7/8	3-7/8	4-1/8	4
Overshot O.D.	5-5/16	5	5-7/16	5-1/8	5-1/8	5-9/16	5-3/8	5-5/8	5-13/16	5-5/8	5-15/16
Standard Box Connection	Per Customer Order										
Type	F.S.	S.H.	F.S.	S.H.	S.H.	F.S.	S.H.	F.S.	F.S.	F.S.	F.S.
Complete Assembly Part No.	C-5142	C-5428	C-5425	C-5162	4716	C-4819	C-5165	C-3796	C-4814	M-5698	5737
(Dressed with Spiral Parts) Weight	124	101	130	105	118	131	113	130	142	130	150

Replacement Parts

Top Sub	Part No.	A-5143	A-5429	A-5426	A-5163	4718	A-4820	A-5166	A-3797	A-4815	L-5699	5738
	Weight	59	51	62	53	55	62	56	65	68	65	70
Bowl	Part No.	B-5144	B-5430	B-5427	B-5164	4717	B-4821	B-5167	B-3798	B-4816	M-5700	5735
	Weight	32	26	34	26	30	34	28	33	36	33	38
Packer	Part No.	B-1508	B-4895	L-1867	B-4672	4672	L-169	B-2487	B-2436	B-2199-1	L-1140	195
	Weight	1/2	1/2	5/8	1/2	1/2	5/8	3/4	5/8	3/4	5/8	3/4
Packer Seat Ring	Part No.	A-1509	A-4896	A-1996	A-4673	4673	L-172	A-2488	A-2437	A-1986	L-1136	194
	Weight	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Spiral Grapple	Part No.	B-1505	B-4897	B-1997	B-4674	4674	M-165	B-2489	B-2489	B-1987	M-1135	196
	Weight	2-1/4	2	2-1/4	2-1/4	2-1/4	2-1/2	2-1/4	2-1/4	2-1/2	2-1/4	2-7/8
Spiral Grapple Control	Part No.	A-1506	B-4898	A-1998	B-4675	4675	L-186	B-2490	B-2439	B-1988	M-1137	193
	Weight	1-1/2	1-1/2	1-1/2	1-3/4	1-3/4	2	2	2	2	1-1/2	2
Standard Guide	Part No.	A-1507	B-4899	B-1999	A-4676	4719	L-187	B-2491	B-3226	B-1989	L-1143	192
	Weight	29	20	20	21	25	30	24	36	33	27	36

Basket Parts

Basket Grapple	Part No.	B-1505	B-4897	B-1997	B-4674	4674	M-165	B-2489	B-2489	B-1987	M-1135	196
	Weight	11-1/4	10	11-1/4	11-1/4	11-1/4	12-1/2	11-1/4	11-1/4	12-1/2	11-1/4	14-3/8
Basket Grapple Control	Part No.	A-1506	B-4898	A-1998	B-4675	4675	L-186	B-2490	B-2439	B-1988	M-1137	193
	Weight	4-1/2	4-1/2	4-1/2	5-1/4	5-1/4	6	6	6	6	4-1/2	6
Mill Control Packer	Part No.	A-1508-R	B-4895-R	L-1867-R	B-4672-R	4672-R	L-169-R	B-2487-R	B-2436-R	B-2199-1R	L-1140-R	195-R
	Weight	6	6	6	7	7	8	8	8	8	6	8

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
- XFS (Extra Full Strength)** Engineered for extreme abuse.
- SFS (Semi Full Strength)** Engineered for special hole conditions commensurate with maximum strength.
- SH (Slim Hole)** Engineered to withstand heavy pulling strain only.
- XSH (Slim Hole)** Engineered for pickup jobs only.

RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	4-5/8	4-3/4	4-3/4	4-3/4	4-7/8	4-7/8	4-7/8	4-7/8	4-7/8	5	5-1/4
Maximum Catch Size (Basket)	4	4-1/4	4-1/8	4-1/8	4-1/4	4-1/4	4-1/4	4-1/4	4-1/4	4-1/4	4-5/8
Overshot O.D.	5-15/16	5-3/4	6-1/16	6-1/16	5-3/4	6	6-1/8	6-3/16	6-3/8	6-5/8	6-3/8
Standard Box Connection	Per Customer Order										
Type	F.S.	F.S.	F.S.	F.S.	S.H.	F.S.	F.S.	F.S.	F.S.	F.S.	S.H.
Complete Assembly Part No.	C-4844	N-8975	8940	C-4829	C-7096	9026	912	C-7093	3061	C-4825	4770
(Dressed with Spiral Parts) Weight	150	138	138	153	135	138	170	176	175	192	176

Replacement Parts

Top Sub	Part No.	B-4845	L-8976	8941	A-4830	A-7097	9027	908	A-7094	3062	B-4826	4771
	Weight	70	64	65	71	64	65	70	75	70	78	78
Bowl	Part No.	B-4846	M-8977	8942	B-4831	B-7098	9028	905	B-7095	3075	B-4827	9199
	Weight	38	33	39	39	33	38	40	44	40	53	52
Packer	Part No.	L-195	L-6114	2362	B-2362	B-6387	9020	1189	B-2455	1189	L-4505	9203
	Weight	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	7/8	3/4
Packer Seat Ring	Part No.	L-194	L-6120	2363	A-2363	A-6388	9021	1184	A-2456	1184	L-1069	9204
	Weight	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	3/8	3/8
Spiral Grapple	Part No.	M-196	M-6112	2364	B-2364	B-6389	9022	1182	B-2457	1182	M-1071	9201
	Weight	2-7/8	2-3/4	2-3/4	2-7/8	2-1/2	2-1/2	2-1/2	3	2-1/2	3	3
Spiral Grapple Control	Part No.	M-193	L-6113	2365	B-2365	A-6390	9023	1187	B-2458	1187	M-1072	9202
	Weight	2	2-1/4	2	2	2	2	2-1/4	2	2-1/4	2-1/2	2-1/2
Standard Guide	Part No.	L-192	6121	6355	B-2366	A-6391	9024	1186	A-2459	3077	L-1074	4772
	Weight	36	34	35	37	33	34	42	51	42	54	39

Basket Parts

Basket Grapple	Part No.	M-196	M-6112	2364	B-2364	B-6389	9022	1182	B-2457	1182	M-1071	9201
	Weight	14-3/8	13-1/2	14	14-3/8	12-1/2	12-1/2	14	15	14	15	15
Basket Grapple Control	Part No.	M-193	L-6113	2365	B-2365	A-6390	9023	1187	B-2458	1187	M-1072	9202
	Weight	6	6-1/2	6	6	6	6	7	6	7	7-1/2	7-1/2
Mill Control Packer	Part No.	L-195-R	L-6114-R	2362-R	B-2362-R	B-6387-R	9020-R	1189-R	B-2455-R	1189-R	M-4505-RS	9203-R
	Weight	8	8	8	8	8	8	9	8	9	10	10

How to Order

Specify:

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- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

FS (Full Strength) Engineered to withstand all pulling, torsional, and jarring strain.

XFS (Extra Full Strength) Engineered for extreme abuse.

SFS (Semi Full Strength) Engineered for special hole conditions commensurate with maximum strength.

SH (Slim Hole) Engineered to withstand heavy pulling strain only.

XSH (Slim Hole) Engineered for pickup jobs only.

RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	5-1/4	5-1/4	5-1/2	5-1/2	5-1/2	5-9/16	5-9/16	5-9/16	5-5/8	5-3/4	5-3/4
Maximum Catch Size (Basket)	4-5/8	4-1/2	4-7/8	4-3/4	4-3/4	4-13/16	4-13/16	4-13/16	5	5-1/8	5
Overshot O.D.	6-3/8	6-7/8	6-5/8	6-5/8	7-1/8	6-11/16	6-15/16	7-1/4	6-3/4	6-7/8	6-7/8
Standard Box Connection	Per Customer Order										
Type	S.H.	F.S.	S.H.	S.H.	F.S.	S.H.	F.S.	F.S.	X.S.H.	S.H.	S.H.
Complete Assembly Part No.	N-6655	C-5174	4776	C-5178	C-5176	C-5185	8943	C-3810	9038	8978	C-5193
(Dressed with Spiral Parts) Weight	176	211	185	185	225	189	190	228	194	203	203

Replacement Parts

Top Sub	Part No.	L-6656	A-5175	4777	B-4826	A-5177	A-5186	8944	A-3811	9039	8979	A-5194
	Weight	78	85	78	78	89	79	80	92	81	82	82
Bowl	Part No.	M-4503	B-4519	9211	B-5179	B-2791	B-5187	8945	B-3812	9040	8980	B-5195
	Weight	52	60	54	54	64	55	60	65	56	58	58
Packer	Part No.	L-4505	B-4520	9215	B-5180	A-756	B-5188	8947	L-113	L-9033	6697	B-3479
	Weight	3/4	1	3/4	3/4	1	3/4	3/4	1-1/4	1	1	1
Packer Seat Ring	Part No.	L-4510	A-4471	9216	A-5181	A-757	A-5189	8951	A-3820	9034	6698	A-3480
	Weight	3/8	3/8	3/8	3/8	3/8	1/4	1/4	3/8	1/4	1/4	1/4
Spiral Grapple	Part No.	M-4498	B-4472	9213	B-5182	B-759	B-5190	103	M-103	M-9035	6699	B-3481
	Weight	3	4	4	4	5	4	5	5	4-1/2	5	5
Spiral Grapple Control	Part No.	L-4499	A-4473	9214	A-5183	B-760	B-5191	129	M-129	M-9036	6700	A-3482
	Weight	2-1/2	3	2-1/2	2-1/2	3	2-1/2	2-1/2	3	2-1/2	3	3
Standard Guide	Part No.	L-4504	A-4474	4778	A-5184	A-761	A-5192	8946	A-3813	9037	6701	A-3483
	Weight	39	58	445	45	63	47	48	61	48	54	54

Basket Parts

Basket Grapple	Part No.	M-4498	B-4472	9213	B-5182	B-759	B-5190	103	M-103	9035	6699	B-3481
	Weight	15	20	20	20	25	20	21	25	21	25	25
Basket Grapple Control	Part No.	L-4499	A-4473	9214	B-5183	B-760	B-5191	129	M-129	9036	6700	A-3482
	Weight	7-1/2	9	7-1/2	7-1/2	9	7-1/2	7-1/2	9	8	9	9
Mill Control Packer	Part No.	L-4505-R	B-4520-R	9215-R	B-5180-R	A-756-R	B-5188-R	8947-R	L-113-R	9033-R	6697-R	B-3479-R
	Weight	10	12	10	10	12	10	10	12	11	12	12

How to Order

Specify:

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SPECIAL NOTES:

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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	5-3/4	5-3/4	5-3/4	6	6	6	6	6	6-1/8	6-1/8	6-1/4
Maximum Catch Size (Basket)	5	5	5	5-3/8	5-1/4	5-1/4	5-1/4	5-1/4	5-1/2	5-3/8	5-5/8
Overshot O.D.	7-3/8	7-3/8	7-3/8	7-1/8	7-1/2	7-5/8	7-5/8	7-5/8	7-1/4	7-3/4	7-3/8
Standard Box Connection	Per Customer Order										
Type	F.S.	F.S.	F.S.	S.H.	F.S.	F.S.	F.S.	F.S.	S.H.	F.S.	S.H.
Complete Assembly Part No.	6150	D-6150	C-4689	C-5196	9996	247	C-3364	7572	C-5206	C-5204	12567
(Dressed with Spiral Parts) Weight	239	239	239	209	215	245	245	245	213	257	216

Replacement Parts

Top Sub	Part No.	6151	L-6151	A-4690	A-5197	9997	248	A-3365	7573	A-5207	A-5205	7573
	Weight	98	98	98	84	90	95	95	95	86	103	87
Bowl	Part No.	6152	M-6152	B-3522	B-5198	9998	249	B-3366	7574	B-5208	B-4218	12568
	Weight	69	69	69	60	69	73	73	73	61	75	62
Packer	Part No.	110	L-110	L-110	B-5199	223	223	L-223	223	B-5209	L-1642	9689
	Weight	1-1/8	1-1/8	1-1/8	1	1-1/8	1-1/8	1-1/8	1-1/8	1	1-1/2	1-1/8
Packer Seat Ring	Part No.	126	L-126	L-126	A-5200	222	222	L-222	222	A-5210	A-2062	9690
	Weight	3/8	3/8	3/8	1/4	3/8	3/8	3/8	3/8	1/4	3/8	1/4
Spiral Grapple	Part No.	104	M-104	M-104	B-5201	220	220	M-220	220	B-5211	B-2063	9687
	Weight	5-1/2	5-1/2	5-1/2	5	5-1/2	5-1/2	5-1/2	5-1/2	5	5-1/2	5
Spiral Grapple Control	Part No.	130	L-130	L-130	A-5202	219	219	L-219	219	A-5212	B-2064	9688
	Weight	3-1/2	3-1/2	3-1/2	3	3-1/2	3-1/4	3-1/4	3-1/4	3	3-1/2	3
Standard Guide	Part No.	120	L-120	L-120	A-5203	218	218	L-218	218	A-5213	A-2065	9691
	Weight	61	61	61	56	61	67	67	67	57	68	58

Basket Parts

Basket Grapple	Part No.	104	M-104	M-104	B-5201	220	220	M-220	220	B-5211	B-2063	9687
	Weight	27-1/2	27-1/2	27-1/2	25	27-1/2	27-1/2	27-1/2	27-1/2	25	27-1/2	25
Basket Grapple Control	Part No.	130	L-130	L-130	A-5202	219	219	L-219	219	A-5212	B-2064	9688
	Weight	10-1/2	10-1/2	10-1/2	9	10-1/2	9-3/4	9-3/4	9-3/4	9	10-1/2	9
Mill Control Packer	Part No.	110-R	L-110-R	L-110-R	B-5199-R	223-R	223-R	L-223-R	223-R	B-5209-R	L-1642-R	9689-R
	Weight	14	14	14	12	14	13	13	13	12	13	12

How to Order

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Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4
Maximum Catch Size (Basket)	5-5/8	5-1/2	5-5/8	5-9/16	5-9/16	5-9/16	5-9/16	5-9/16	5-9/16	5-1/2	5-9/16
Overshot O.D.	7-3/8	7-3/8	7-3/8	7-5/8	7-5/8	7-5/8	7-7/8	7-7/8	7-7/8	7-7/8	7-7/8
Standard Box Connection	Per Customer Order										
Type	S.H.	S.H.	S.H.	S.F.S.	S.F.S.	S.F.S.	F.S.	F.S.	F.S.	F.S.	F.S.
Complete Assembly Part No.	12565	C-4691	N-9692	1873	19090	N-8741	7791	9678	9983	C-8841	D-7791
(Dressed with Spiral Parts) Weight	216	216	216	241	241	241	261	261	261	261	261

Replacement Parts

Top Sub	Part No.	118	A-4692	L-9693	118	19091	L-8742	7793	7922	118	A-8842	L-7793
	Weight	87	87	87	99	99	99	105	105	105	105	105
Bowl	Part No.	12566	B-4693	M-9694	1875	19092	M-1641	1657	9749	9984	C-2205	M-1657
	Weight	62	62	62	69	69	69	76	76	76	76	76
Packer	Part No.	9689	L-1642	L-9689	1642	1642	L-1642	1680	1680	1680	L-1680	L-1680
	Weight	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
Packer Seat Ring	Part No.	9690	A-4828	L-9690	1643	1643	L-1643	1658	1658	1658	A-2072	L-1658
	Weight	1/4	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Spiral Grapple	Part No.	9687	B-4694	M-9687	1644	1644	M-1644	1659	1659	1659	B-2073	M-1659
	Weight	5	5	5	5-1/4	5-1/4	5-1/4	5-3/4	5-3/4	5-3/4	5-3/4	5-3/4
Spiral Grapple Control	Part No.	9688	B-4695	L-9688	1645	1645	L-1645	1660	1660	1660	A-2074	L-1660
	Weight	3	3	3	3-1/4	3-1/4	3-1/4	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2
Standard Guide	Part No.	9691	A-4696	L-9691	5525	5525	L-5525	1493	1493	1493	A2075	L-1493
	Weight	58	58	58	63	63	63	69	69	69	69	69

Basket Parts

Basket Grapple	Part No.	9687	B-4694	M-9687	1644	1644	M-1644	1659	1659	1659	B-2073	M-1659
	Weight	25	25	25	27	27	27	28-3/4	28-3/4	28-3/4	28-3/4	28-3/4
Basket Grapple Control	Part No.	9688	B-4695	L-9688	1645	1645	L-1645	1660	1660	1660	A-2074	L-1660
	Weight	9	9	9	10	10	10	10-1/2	10-1/2	10-1/2	10-1/2	10-1/2
Mill Control Packer	Part No.	9689-R	L-1642-R	L-9689-R	1642-R	1642	L-1642-R	1680-R	1680	1680	L-1680-R	1680-R
	Weight	12	13	12-	13	13	13	14	14	14	14	14

How to Order

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- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)		6-3/8	6-3/8	6-3/8	6-3/8	6-1/2	6-1/2	6-1/2	6-1/2	6-5/8	6-5/8	6-5/8
Maximum Catch Size (Basket)		5-3/4	5-3/4	5-3/4	5-3/4	5-3/4	5-7/8	5-3/4	5-3/4	6	6	5-7/8
Overshot O.D.		7-1/2	7-1/2	7-1/2	7-3/4	7-5/8	8-1/8	8-1/4	8-1/4	7-3/4	7-3/4	7-3/4
Standard Box Connection		Per Customer Order										
Type		S.H.	S.H.	S.H.	S.F.S.	S.H.	F.S.	F.S.	F.S.	S.H.	S.H.	S.H.
Complete Assembly	Part No.	9009	M-9009	9746	9163	C-5344	9677	2380	7796	N-4785	B-11322	C-5214
(Dressed w/Spiral Parts)	Weight	211	211	211	232	221	250	280	280	235	235	236

Replacement Parts

Top Sub	Part No.	9010	L-9010	7922	9165	A-5345	7922	2381	7798	L-9133	A-3365	A-5215
	Weight	84	84	84	93	89	100	120	120	100	100	101
Bowl	Part No.	9011	M-9011	9747	9164	B-5346	9748	2382	7797	M-9134	B-11323	B-5216
	Weight	63	63	63	68	64	70	80	80	67	67	67
Packer	Part No.	9005	L-9005	9005	5508	B-5347	9865	2372	2372	L-9136	L-9136	B-5217
	Weight	1-1/4	1-1/4	1-1/4	1-1/4	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
Packer Seat Ring	Part No.	9006	L-9006	9006	5505	A-5348	9866	5654	5654	L-9135	L-9135	A-5218
	Weight	1/4	1/4	1/4	1/4	1/4	3/8	3/8	3/8	1/2	1/2	1/2
Spiral Grapple	Part No.	9003	M-9003	9003	5503	B-5349	9863	5652	5652	M-9137	M-9137	B-5219
	Weight	5-3/4	5	5	5	5	5-1/2	5-3/4	5-3/4	5-1/2	5-1/2	5-1/2
Spiral Grapple Control	Part No.	9004	L-9004	9004	5504	B-5350	9864	5653	5653	L-9138	L-9138	A-5220
	Weight	3	3	3	3	3	3-1/2	3-1/2	3-1/2	3	3	3
Standard Guide	Part No.	9007	L-9007	9007	5506	A-5351	9867	5655	5655	L-9139	L-9139	A-5221
	Weight	58	58	58	62	59	60	80	80	60	60	60

Basket Parts

Basket Grapple	Part No.	9003	M-9003	9003	5503	B-5349	9863	5652	5652	M-9137	M-9137	B-5219
	Weight	25	25	25	25	25	25	30	30	26	26	27-1/2
Basket Grapple Control	Part No.	9004	L-9004	9004	5504	B-5350	9864	5653	5653	L-9138	L-9138	A-5220
	Weight	9	9	9	9	9	9-1/2	12	12	8-1/2	8-1/2	9
Mill Control Packer	Part No.	9005-R	L-9005-R	9005-R	5508-R	B-5347-R	9865-R	2372-R	2372-R	L-9136-R	L-9136-R	B-5217-R
	Weight	12	12	12	12	12	11	14	14	11-1/2	11-1/2	12

How to Order

Specify:

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- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	6-5/8	6-5/8	6-3/4	6-3/4	6-3/4	6-7/8	6-7/8	7	7	7	7
Maximum Catch Size (Basket)	5-7/8	5-7/8	6-1/8	6	6	6-1/4	6-1/4	6-3/8	6-1/4	6-3/8	6-1/4
Overshot O.D.	8-1/8	8-1/8	7-7/8	8-3/8	8-3/8	8	8	8-1/8	8-1/8	8-3/8	8-5/8
Standard Box Connection	Per Customer Order										
Type	S.F.S.	S.F.S.	S.H.	F.S.	F.S.	S.H.	S.H.	S.H.	S.H.	S.H.	F.S.
Complete Assembly Part No.	9339	M-9339	16500	275	C-3833	8995	N-8995	9815	C-3263	17028	6140
(Dressed with Spiral Parts) Weight	270	270	243	284	284	245	245	251	253	260	297

Replacement Parts

Top Sub	Part No.	9338	L-9338	16501	276	A-3834	8996	L-8996	9816	A-3033	276	6141
	Weight	115	115	102	120	120	103	103	107	107	115	130
Bowl	Part No.	9337	M-9337	16502	277	B-3816	8997	M-8997	9817	B-3264	17209	6142
	Weight	75	75	69	79	79	68	68	69	70	79	80
Packer	Part No.	1634	L-1634	B-5225	207	L-207	8985	L-8985	9224	L-6310	9224	111
	Weight	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-3/8
Packer Seat Ring	Part No.	1620	A-1815	A-5226	206	L-206	8986	L-8986	9225	A-3266	9225	127
	Weight	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Spiral Grapple	Part No.	84	M-84	B-5227	209	M-209	8987	M-8987	9222	B-3267	9222	105
	Weight	6	6	5-3/4	6-1/8	6-1/8	5-3/4	5-3/4	5-3/4	5-3/4	5-3/4	6
Spiral Grapple Control	Part No.	89	L-89	B-5228	208	L-208	8988	M-8988	9223	B-3268	9223	131
	Weight	3	3	3	4	4	3-1/2	3-1/2	1-1/4	3-1/2	3-1/2	4
Standard Guide	Part No.	4174	L-4174	16503	205	L-205	8989	L-8989	9226	A-3269	9226	121
	Weight	69	69	62	73	73	62	62	62	62	63	75

Basket Parts

Basket Grapple	Part No.	84	M-84	B-5227	209	M-209	8987	M-8987	9222	B-3267	9222	105
	Weight	30	30	28-3/4	30-5/8	30-5/8	28-3/4	28-3/4	28	28-3/4	28	30
Basket Grapple Control	Part No.	89	L-89	B-5228	208	L-208	8988	M-8988	9223	B-3268	9223	131
	Weight	9	9	9	12	12	10-1/2	10-1/2	10	10-1/2	10	12
Mill Control Packer	Part No.	1634-R	L-1634-R	B-5225-R	207-R	L-207-R	8985-R	L-8985-R	9224-R	L-6310-R	9224-R	111-R
	Weight	12	12	12	16	16	14	14	13-1/2	14	13-1/2	16

How to Order

Specify:

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- (3) Top connection
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SPECIAL NOTES:

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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	7	7	7-1/8	7-1/4	7-1/4	7-3/8	7-3/8	7-3/8	7-1/2	7-1/2	7-1/2
Maximum Catch Size (Basket)	6-1/4	6-1/4	6-1/2	6-7/8	6-1/2	6-1/2	6-3/4	6-5/8	6-5/8	6-7/8	6-7/8
Overshot O.D.	8-5/8	8-5/8	8-1/4	8-7/8	8-7/8	8-1/2	8-1/2	9	8-5/8	8-5/8	9-1/8
Standard Box Connection	Per Customer Order										
Type	F.S.	F.S.	S.H.	F.S.	F.S.	S.H.	S.H.	F.S.	S.H.	S.H.	S.F.S.
Complete Assembly Part No.	7800	C-4817	9570	7805	C-5352	4793	C-5233	C-5230	12692	C-7101	9290
(Dressed with Spiral Parts) Weight	297	297	260	301	301	262	265	306	260	263	275

Replacement Parts

Top Sub	Part No.	7802	B-4818	9544	7807	A-5353	4794	A-5234	A-5231	12693	A-7102	9296
	Weight	130	130	111	132	132	117	118	135	118	121	124
Bowl	Part No.	7801	B-3819	9571	7806	M-1026-1	9233	B-5235	B-5232	12694	B-7103	9291
	Weight	80	80	72	80	80	70	71	81	70	71	72
Packer	Part No.	111	L-111	9231	1025	L-1025	9237	B-5236	B-4154	12695	B-7104	9298
	Weight	1-3/8	1-3/8	1-1/4	1-1/2	1-1/2	1-1/4	1-1/4	1-1/2	1-1/4	1-1/4	1-1/2
Packer Seat Ring	Part No.	127	L-127	9232	1030	L-1030	9238	A-5237	A-4155	12696	A-7105	9294
	Weight	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Spiral Grapple	Part No.	105	N-105	9229	1027	M-1027	9235	B-5238	C-4156	12697	B-7106	9292
	Weight	6	6	5-3/4	6-1/2	6-1/2	5-1/2	6	7	5-1/2	6	6
Spiral Grapple Control	Part No.	131	M-131	9230	1031	M-1031	9236	B-5239	B-4157	12698	A-7107	9293
	Weight	4	4	3-1/2	4	4	3-1/2	3-1/2	4	3-1/2	3-1/2	3-1/2
Standard Guide	Part No.	121	M-121	4792	1029	M-1029	4795	A-5240	A-4158	12699	A-7108	9295
	Weight	75	75	64	77	77	64	65	77	64	66	67

Basket Parts

Basket Grapple	Part No.	105	N-105	9229	1027	M-1027	9235	B-5238	C-4156	12697	B-7106	9292
	Weight	30	30	28	32-1/2	32-1/2	28-1/2	30	35	30	30	30
Basket Grapple Control	Part No.	131	M-131	9230	1031	M-1031	9236	B-5239	B-4157	12698	A-7107	9293
	Weight	12	12	10	12	12	10	10-1/2	12	10-1/2	10-1/2	10-1/2
Mill Control Packer	Part No.	111-R	L-111-R	9231-R	1025-R	L-1025-R	9237-R	B-5236-R	B-4154-R	12695-R	B-7104-R	9298-R
	Weight	16	16	14	16	16	13-1/2	14	16	14	14	14

How to Order

Specify:

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- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	7-1/2	7-5/8	7-5/8	7-5/8	7-3/4	7-3/4	7-3/4	7-3/4	7-3/4	7-3/4	7-7/8
Maximum Catch Size (Basket)	6-3/4	6-3/4	7	6-7/8	7-1/8	7-1/8	7	7	7	7	7-1/4
Overshot O.D.	9-1/8	8-3/4	8-3/4	9-1/4	8-7/8	8-7/8	8-7/8	9-3/8	9-3/8	9-3/8	9
Standard Box Connection	Per Customer Prder										
Type	F.S.	S.H.	S.H.	F.S.	S.H.	S.H.	S.H.	F.S.	F.S.	F.S.	S.H.
Complete Assembly Part No.	C-7099	4796	C-5249	C-5241	9850	5257	C-5257	1665	7810	C-1500	4816
(Dressed with Spiral Parts) Weight	314	271	275	319	278	275	281	328	328	328	289

Replacement Parts

Top Sub	Part No.	A-7100	4797	A-5250	A-5242	9851	5258	A-5258	1666	7812	B-1502	4835
	Weight	140	124	124	145	128	128	128	152	152	152	133
Bowl	Part No.	B-4516	9239	B-5251	B-5243	9852	5259	B-5259	1283	7811	B-1501	9245
	Weight	81	71	72	82	73	73	73	83	83	83	76
Packer	Part No.	L-98	9243	B-5252	B-5244	9855	5260	B-5260	98	98	L-98	9250
	Weight	2	1-1/2	1-1/2	1-3/4	4-1/2	4-1/2	4-1/2	1-3/4	1-3/4	1-3/4	2
Packer Seat Ring	Part No.	L-99	9244	A-5253	A-5245	9856	5261	A-5261	99	99	L-99	9251
	Weight	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Spiral Grapple	Part No.	B-3454	9241	B-5254	B-5246	9853	5262	B-5262	85	85	N-85	9248
	Weight	7	5-1/2	6	7	6	6	6	7	7	7	7
Spiral Grapple Control	Part No.	B-3455	9242	B-5255	B-5247	9854	5263	A-5263	100	100	M-100	9249
	Weight	4	3-1/2	3-1/2	4	3-1/2	3-1/2	3-1/2	4	4	4	4
Standard Guide	Part No.	A-3456	4798	A-5256	A-5248	9857	5264	A-5264	88	88	M-88	4836
	Weight	79	65	67	79	66	68	68	80	80	80	69

Basket Parts

Grapple	Part No.	B-3454	9241	B-5254	B-5246	9853	5262	B-5262	85	85	N-85	9248
	Weight	35	29	30	35	29	30	30	35	35	35	35
Basket Grapple Control	Part No.	B-3455	9242	B-5255	B-5247	9854	5263	A-5263	100	100	M-100	9249
	Weight	12	10	10-1/2	12	10	10	10-1/2	12	12	12	12
Mill Control Packer	Part No.	M-98-RS	9243-R	B-5252-R	B-5244-R	9855-R	5260-R	B-5260-R	98-R	98-R	L-98-R	9250-R
	Weight	16	14	14	16	14	14	14	16	16	16	16

How to Order

Specify:

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- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	8	8	8	8-3/8	8-1/2	8-1/2	8-1/2	8-5/8	8-5/8	8-5/8	8-3/4
Maximum Catch Size (Basket)	7-3/8	7-1/4	7-1/4	7-5/8	7-7/8	7-3/4	7-3/4	8	7-7/8	7-5/8	8
Overshot O.D.	9-1/8	9-5/8	9-5/8	10-1/16	9-5/8	10-1/8	10-1/8	9-3/4	10-1/4	11	10-1/2
Standard Box Connection	Per Customer Order										
Type	S.H.	F.S.	F.S.	F.S.	S.H.	F.S.	F.S.	X.S.H.	S.H.	F.S.	F.S.
Complete Assembly Part No.	C-5265	N-264	C-4179	C-1230	C-5284	M-8960	C-5281	4837	C-5297	C-5292	8963
(Dressed with Spiral Parts) Weight	294	337	337	351	325	358	358	325	369	456	390

Replacement Parts

Top Sub	Part No.	A-5266	L-265	B-4180	B-1235	A-5285	L-8961	A-5282	4838	A-5298	A-5293	8964
	Weight	137	158	158	162	159	165	165	159	168	182	174
Bowl	Part No.	B-5267	M-266	B-2716	B-1231	B-5286	M-8962	B-5283	9098	B-5299	B-5294	8965
	Weight	75	84	84	86	78	87	87	78	88	118	94
Packer	Part No.	B-5268	L-235	M-235	L-1060	B-5287	L-8956	L-1060	9103	B-5300	A-1966	1966
	Weight	1-1/2	1-1/2	1-1/2	1-5/8	1-1/2	1-5/8	1-5/8	1-1/2	1-3/4	2-1/8	1-3/4
Packer Seat Ring	Part No.	A-5269	L-241	M-241	A-1234	A-5288	L-8953	A-4429	9104	A-5301	A-5295	1971
	Weight	1/2	1/2	1/2	3/4	1/2	3/4	3/4	1/2	1/2	3/4	3/4
Spiral Grapple	Part No.	B-5270	M-238	M-238	C-1232	B-5289	M-8957	B-4430	9101	B-5302	B-1962	8966
	Weight	6-1/2	7-3/8	7-3/8	8-1/2	7-1/2	9	9	7-1/2	10	12	10-1/2
Spiral Grapple Control	Part No.	B-5271	M-239	M-239	B-1233	A-5290	L-8958	A-4431	9102	B-5303	B-1963	8967
	Weight	3-1/2	4	4	4-3/4	4	4-3/4	4-3/4	4	5	6	5-1/2
Standard Guide	Part No.	A-5272	M-240	M-240	B-1236	A-5291	L-8959	B-4432	4839	A-5304	A-5296	8968
	Weight	70	81	81	87	74	90	90	74	96	135	103

Basket Parts

Basket Grapple	Part No.	B-5270	M-238	M-238	C-1232	B-5289	M-8957	B-4430	9101	B-5302	B-1962	8966
	Weight	32-1/2	37-1/8	37-1/8	42-1/2	37-1/2	45	45	37-1/2	50	60	52
Basket Grapple Control	Part No.	B-5271	M-239	M-239	B-1233	B-5290	L-8958	A-4431	9102	B-5303	B-1963	8967
	Weight	10-1/2	12	12	13-1/4	12	13-1/4	13-1/4	12	15	18	15-1/2
Mill Control Packer	Part No.	B-5268-R	L-235-R	L-235-R	L-1060-R	B-5287-R	L-8956-R	L-1060-R	9103-R	B-5300-R	A-1966-R	1966-R
	Weight	14	16	16	19	16	19	19	16	20	24	21

How to Order

Specify:

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RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Specifications

Maximum Catch Size (Spiral)	8-7/8	8-7/8	9	9	9-1/2	10	10-1/8	10-1/8	16-3/4
Maximum Catch Size (Basket)	8-1/8	8-1/8	8-1/4	8	8-3/4	9-1/4	9-3/8	9-1/8	16
Overshot O.D.	10-1/2	11-1/4	10-5/8	11-3/8	11-3/4	11-7/8	11-3/4	12-1/2	20-3/4
Standard Box Connection	Per Customer Order								
Type	F.S.	F.S.	F.S.	F.S.	F.S.	F.S.	F.S.	X.F.S.	—
Complete Assembly Part No.	C-5305	C-1870	5321	C-5313	15250	8969	C-5329	C-1880	31653
(Dressed with Spiral Parts) Weight	386	386	401	533	530	670	642	847	—

Replacement Parts

Top Sub	Part No.	A-5306	B-1877	5322	A-5314	15251	8970	A-5330	B-1885	31654
	Weight	173	173	178	223	220	388	375	460	500
Bowl	Part No.	B-5307	B-1871	5323	B-5315	15252	8971	B-5331	B-1881	31655
	Weight	93	93	97	134	130	122	115	180	570
Packer	Part No.	B-5308	A-1966	5324	B-5316	15255	1969	B-5332	A-1969	31656
	Weight	1-3/4	1-3/4	2	2-1/4	2-1/4	2-1/2	2-1/2	2-5/8	32
Packer Seat Ring	Part No.	A-5309	A-1873	5325	A-5317	15256	1978	A-5333	A-1970	—
	Weight	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	—
Spiral Grapple	Part No.	B-5310	B-1874	5326	B-5318	15253	8972	B-5334	B-1971	31658
	Weight	10	10	10	12-1/2	12-1/2	12	12	15	125
Spiral Grapple Control	Part No.	B-5311	B-1875	5327	B-5319	15254	8973	A-5335	B-1972	31659
	Weight	5	5	5	6	6	7	7	10	—
Standard Guide	Part No.	A-5312	B-1876	5328	A-5320	15257	8974	A-5336	B-1973	31660
	Weight	102	102	108	154	150	138	130	178	170

Basket Parts

Basket Grapple	Part No.	B-5310	B-1874	5326	B-5318	15253	8972	B-5334	B-1971	31658
	Weight	50	50	50	62-1/2	62	60	60	75	250
Basket Grapple Control	Part No.	B-5311	B-1875	5327	B-5319	15254	8973	A-5335	B-1972	31659
	Weight	15	15	15	18	17	21	21	30	25
Mill Control Packer	Part No.	B-5308-R	A-1966-R	5324-R	B-5316-R	15255-R	1969-R	B-5332-R	A-1969-R	31656
	Weight	20	24	20	24	21	28	28	40	32

How to Order

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Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

- (1) 3 Inner and 3 Outer Seals

Bowen Series CT-150 Overshots Specifications

Spiral Maximum Catch (Inches)		3-1/16	3-1/8	3-21/32	4-3/4	6-1/4	7	8	10-1/8
Basket Maximum Catch (Inches)		2-11/16	2.702	3.220	4-1/4	5-5/8	6-3/8	7-1/4	9-3/8
Overshot O.D. (Inches)		3-3/4	4-1/8	4-11/16	5-3/4	7-3/8	8-1/8	9-5/8	11-3/4
Standard Box Connection		Per Customer Order							
Type		CT	CT	CT	CT	CT	CT	CT	CT
Complete Assembly	Part No.	80602	79957	79937	79908	79946	79942	79951	80252

Replacement Parts

Top Sub	Part No.	80603	79958	79938	79909	79947	79943	79952	80253
Bowl	Part No.	80604	79959	79939	79910	79948	79944	79953	80254
P.O. Rubber	Part No.	37588*	809	6665	6114	9689	9224	235	5332
P.O. Seat Ring	Part No.	37589	1748	43496	6120	9690	9225	241	5333
Grapple	Part No.	37590	1741	6662	6112	9687	9222	238	5334
Grapple Control	Part No.	37591	1747	6674	6113	9688	9223	239	5335
Guide	Part No.	80605	79960	79940	79911	79949	79945	79954	80255
Packer	Part No.	—	—	—	—	9689	9224	—	—
Basket Grapple	Part No.	—	—	—	—	—	9222	—	—

Optional

Lock Ring Set	Part No.	67480	67484	67504	65280	67617	67695	65179	65331
Spacer	Part No.	67481	67485	67505	65373	67652	67696		
Lock Ring Breakout Tool	Part No.	65912	65912	65912	65912	65912	65912	65912	65912
High Pressure Pack-off Ass'y	Part No.	70857	10255	10260	10265	—	61204	65321	65333
Small Spacer Seal	Part No.	568-40	30-14	30-18	6230-27	—	30-42	6230-46	PRP568-275
Large Spacer Seal	Part No.	568-42	—	—	—	—	—		
Packer	Part No.	37588HP	809-HP	6665-HP	6114-HP	—	9224-HP	235-HP	5332-HP
Pack-off Adapter	Part No.	70858	—	—	—	—	—		
Spacer	Part No.	70859	—	—	—	67652	—		65381**
Bushing	Part No.	—	10256	10261	10266	—	61205	65322	65334
Mill Extension	Part No.	—	—	—	79912	—	—	79955	80256

*For Type D Packer use No. 3594-D

**Use with Type A Packer

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and type of fish to be caught
- (3) Top connection
- (4) O.D., if other than standard

SPECIAL NOTES:

- FS (Full Strength)** Engineered to withstand all pulling, torsional, and jarring strain.
- XFS (Extra Full Strength)** Engineered for extreme abuse.
- SFS (Semi Full Strength)** Engineered for special hole conditions commensurate with maximum strength.
- SH (Slim Hole)** Engineered to withstand heavy pulling strain only.
- XSH (Slim Hole)** Engineered for pickup jobs only.

RECOMMENDED SPARE PARTS:

Spiral:

- (1) 3 Packers
- (2) 2 Grapples for each size
- (3) 1 Control

Basket:

- (1) 2 Grapples
- (2) Mill Control Packers for each size

Mill Control Packer:

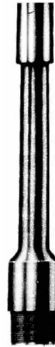
- (1) 3 Inner and 3 Outer Seals

Overshot Accessories

Two Types of Top Subs are available for Bowen Overshots:

SS, Short Sub with shoulder; and LS, Elevator Sub with shoulder.

Type SS Top Subs are furnished as part of the assembly, unless otherwise specified.



150 Series Overshot Type LS Top Subs

Complete Assembly No.	9305	C-5072	C-4741	C-4623	C-5080	9270	C-1827	C-4736	C-5101	C-5098	C-5104	9105	C-4822	C-5115
O.D. of Overshot	3-1/8	3-1/4	3-1/2	3-3/8	3-5/8	3-5/8	3-3/4	4	3-15/16	4-3/16	4	4-1/8	4-1/4	4-1/8
Part No.	9311-LS	A-5073-G	A-4742-G	A-5083-G	A-5081-G	9276-LS	A-1834-G	A-4737-G	A-5102-G	A-5099-G	A-5105-G	9106-LS	A-4823-G	A-5116-G
Weight	78	81	84	83	86	86	84	88	87	90	87	88	90	107
Length	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Complete Assembly No.	C-5112	C-5126	9635	C-5123	C-4619	C-4732	C-5151	9109	C-5148	C-5129	9120	C-4686	C-9296	C-7497
O.D. of Overshot	4-3/8	4-1/4	4-3/8	4-1/2	4-3/8	4-13/16	4-9/16	4-11/16	5	4-5/8	4-11/16	5-1/8	4-11/16	5-1/8
Part No.	A-5113-G	A-5127-G	9636-LS	A-5124-G	A-4620-G	A-4733-G	A-5152-G	9110-LS	A-5149-G	A-5130-G	9110-LS	A-4687-G	A-9297-G	A-7498-G
Weight	112	109	111	114	111	116	113	116	118	115	117	120	114	120
Length	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Complete Assembly No.	C-5139	C-5136	9515	C-5154	C-5142	C-5428	C-5425	C-5162	C-4819	5896	C-5165	C-4814	C-4969	5698
O.D. of Overshot	4-3/4	5-3/16	5-1/4	4-7/8	5-5/16	5	5-7/16	5-1/8	5-9/16	5-9/16	5-3/8	5-13/16	5-1/2	5-5/8
Part No.	A-5140-G	A-5137-G	9516-LS	A-5155-G	A-5143-G	A-5249-G	A-5426-G	A-5163-G	A-4820-G	5897-LS	A-5166-G	B-4815-G	A-4970-G	5699-LS
Weight	117	122	124	119	124	121	126	170	175	175	175	180	180	182
Length	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Complete Assembly No.	C-4844	5737	C-5168	8975	C-4829	C-7096	C-7093	C-5171	7787	C-4825	6655	C-5174	4773	8625
O.D. of Overshot	5-15/16	5-15/16	5-5/8	5-3/4	6-1/16	5-3/4	6-3/16	5-7/8	6-1/8	6-5/8	6-3/8	6-7/8	6-1/2	5-5/8
Part No.	B-4845-G	5738-LS	A-5169-G	8976-LS	A-4830-G	A-7097-G	A-7094-G	A-5172-G	7789-LS	A-4826-G	6656-LS	A-5175-G	4774-LS	8628-LS
Weight	185	185	185	180	190	180	190	190	190	195	195	200	215	220
Length	46	46	46	46	46	46	46	46	46	46	46	46	48	48
Complete Assembly No.	C-5178	C-5176	C-5185	B-3810	9038	C-5193	8978	C-4689	6150	C-5196	C-3364	7572	C-5206	C-5204
O.D. of Overshot	6-5/8	7-1/8	6-11/16	7-1/4	6-3/4	6-7/8	6-7/8	7-3/8	7-3/8	7-1/8	7-5/8	7-5/8	7-1/4	7-3/4
Part No.	A-4826-G	A-5177-G	A-5186-G	B-3811-G	9039-LS	A-5194-G	8979-LS	A-4690-G	6151-LS	A-5197-G	A-3365-G	7573-LS	A-5207-G	A-5205-G
Weight	220	230	235	235	225	230	230	240	240	235	245	245	240	250
Length	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Complete Assembly No.	C-4691	9692	8741	C-2108	7791	9009	9163	C-5344	9860	C-5342	C-5214	4785	9339	C-3032
O.D. of Overshot	7-3/8	7-3/8	7-5/8	7-7/8	7-7/8	7-1/2	7-3/4	7-5/8	7-5/8	8-1/8	7-3/4	7-3/4	8-1/8	8-1/4
Part No.	A-4692-G	9693-LS	8742-LS	B-2106-G	7793-LS	9010-LS	9165-LS	A-5345-G	9861-LS	A-5343-G	A-5215-G	9133-LS	9338-LS	A-3033-G
Weight	245	245	245	255	255	240	250	250	250	260	255	255	260	265
Length	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Complete Assembly No.	C-5222	275	C-3833	8995	C-3263	9217	C-4817	7800	9570	C-5354	C-5352	4793	C-5233	C-5230
O.D. of Overshot	7-7/8	8-3/8	8-3/8	8	8-1/8	8-1/8	8-5/8	8-5/8	8-1/4	8-3/8	8-7/8	8-1/2	8-1/2	9
Part No.	A-5223-G	276-LS	A-3834-G	8996-LS	A-3033-G	9218-LS	B-4818-G	7802-LS	9544-LS	A-5355-G	A-5353-G	4794-LS	A-5234-G	A-5231-G
Weight	410	420	420	410	415	415	425	425	420	420	430	425	425	435
Length	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Complete Assembly No.	C-7101	C-7099	4796	C-5249	C-5241	C-5257	9850	C-1500	1665	4816	C-5265	264	C-4179	4834
O.D. of Overshot	8-5/8	9-1/8	8-3/4	8-3/4	9-1/4	8-7/8	8-7/8	9-3/8	9-3/8	9	9-1/8	9-5/8	9-5/8	9-1/2
Part No.	A-7102-G	A-7100-G	4797-LS	A-2550-G	A-5242-G	A-5258-G	9851-LS	B-1502-G	1666-LS	4835-LS	A-5266-G	265-LS	B-4180-G	9063-LS
Weight	430	437	430	430	440	640	640	650	650	640	645	655	655	650
Length	54	54	50	50	50	54	54	54	54	54	54	54	54	54
Complete Assembly No.	C-1230	C-5284	8960	C-5297	C-5292	8963	C-5305	C-5321	8969	C-5329	C-1880	15800	—	—
O.D. of Overshot	10	9-5/8	10-1/8	10-1/4	11	10-1/2	10-1/2	10-5/8	11-7/8	11-3/4	12-1/2	12-3/4	—	—
Part No.	B-1235-G	A-5285-G	8961-LS	A-5298-G	A-5293-G	8964-LS	A-5306-G	A-5322-G	8970-LS	A-5330-G	B-1885-G	15801-LS	—	—
Weight	660	655	665	670	700	675	680	680	900	895	925	975	—	—
Length	54	54	54	54	54	54	54	54	54	54	54	54	—	—



Type D Collar Packer Assembly

Bowen Type D Collar Packer Assemblies for Tubing Overshots

Use with Overshot No.	9305	C-4741	C-4623	C-5080	9270	C-4736	C-9237	C-5101	C-5104	C-4822	
Overshot Maximum Catch	2-3/8	2-3/8	2-1/2	2-1/2	2-7/8	2-7/8	3	3-1/16	3-1/8	3-1/8	
Maximum Size to Pack-off:	1.660	1.660	1.990	1.990	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-3/8 OD	
Off-Tubing	O.D.	O.D.	O.D.	O.D.	NON	NON	NON	E.U.E.	E.U.E.	E.U.E.	
Collar	E.U.E.	E.U.E.	E.U.E.	E.U.E.	UPSET	UPSET	UPSET				
Complete Assembly	Part No.	39380	39381	39382	39383	39384	39385	47390	24046	39388	39390
	Weight	2-5/8	2-5/8	2-7/8	2-7/8	3-3/16	3-5/8	5-1/4	3-5/8	4-5/8	4-5/8

Replacement Parts

Packer Insert	Part No.	9309-D	1453-D	B-5089-D	B-3395-D	8550-D	L-809-D	B-9240-D	B-3594-D	B-5107-D	7090-D
	Weight	2-1/2	2-1/2	2-3/4	2-3/4	3	3-1/2	5	3-1/4	4-1/2	4-1/2
Spring	Part No.	39412	39412	26154	26154	8539	8539	47391	24044	24044	24044
	Weight	1/8	1/8	1/8	1/8	3/16	1/8	1/4	1/8	1/8	1/8
"O" Ring	Part No.	30-3	30-3	30-4	30-4	30-6	30-6	27-35	30-10	27-35	27-35
	Weight	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32

Bowen Type D Collar Packer Assemblies for Tubing Overshots

Use with Overshot No.	9105	C-5112	5115	C-5126	C-5123	9635	C-4619	C-4732	9109	C-5151	
Overshot Maximum Catch	3-1/8	3-1/4	3-1/4	3-3/8	3-3/8	3-3/8	3-1/2	3-1/2	3-21/32	3-21/32	
Maximum Size to Pack-off	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-3/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	
Tubing	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	NON	NON	NON	E.U.E.	E.U.E.	
Collar				UPSET	UPSET	UPSET					
Complete Assembly	Part No.	9095	39391	39224	39392	39347	9639	39393	39394	6653	6653
	Weight	4-5/8	6	4-1/4	5-5/8	5-3/4	4-3/8	5-3/4	4-1/4	4-5/8	4-5/8

Replacement Parts

Packer Insert	Part No.	809-D	1517-D	B-5118-D	B-4625-D	6515-D	4185-D	7065-D	168-D	6665-D	6665-D
	Weight	4-3/8	5-3/4	4	5-1/2	5-1/2	4-1/8	5-1/2	4	4-3/8	4-3/8
Spring	Part No.	808	39194	39194	24044	808	4183	4183	4183	6654	6654
	Weight	1/4	1/4	1/4	1/8	1/4	1/4	1/4	1/4	1/4	1/4
"O" RING	Part No.	27-35	30-9	30-9	27-35	27-35	30-10	30-10	30-10	30-10	30-10
	Weight	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32

Bowen Type D Collar Packer Assemblies for Tubing Overshots

Use with Overshot No.	5148	C-5129	C-4686	C-5139	C-5154	C-5142	C-5428	C-5425	9515	5896	
Overshot Maximum Catch	3-21/32	3-3/4	3-3/4	3-7/8	4	4	4-1/8	4-1/8	4-1/4	4-1/4	
Maximum Size to Pack-off	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	2-7/8 OD	3-1/2 OD	3-1/2 OD	
Tubing	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	NON	NON	
Collar							UPSET	UPSET			
Complete Assembly	Part No.	39225	39397	39398	39399	39401	39402	39403	39404	9538	5895
	Weight	4-5/8	4-3/4	7-1/4	8-1/8	8-3/8	8-3/8	7-3/8	7-3/8	5-7/8	8-1/2

Replacement Parts

Packer Insert	Part No.	3219-D	5538-D	A-811-D	A-1707-D	B-5157-D	B-1506-D	B-4895-D	1867-D	856-D	189-D
	Weight	4-3/8	4-1/2	7	7-3/4	8	8	7	7	5-1/2	8
Spring	Part No.	6654	6654	6654	914	914	914	914	914	914	6129
	Weight	1/4	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	1/2
"O" Ring	Part No.	30-10	30-10	30-10	30-14	30-14	30-14	30-14	30-14	30-14	30-16
	Weight	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32

Bowen Type D Collar Packer Assemblies for Tubing Overshots

Use with Overshot No.	5162	8975	C-5165	C-4814	5737	5698	C-5168	C-4829	C-7096	C-7093	4825	
Overshot Maximum Catch	4-1/4	4-1/2	4-1/2	4-1/2	4-5/8	4-5/8	4-3/4	4-3/4	4-7/8	4-7/8	5	
Maximum Size to Pack-off	3-1/2 OD	3-1/2 OD	3-1/2 OD	3-1/2 OD	3-1/2 OD	3-1/2 OD	4 OD	4 OD	4 OD	4 OD	4 OD	
Tubing	NON	E.U.E.	E.U.E.	E.U.E.	E.U.E.	E.U.E.	NON	NON	NON	NON	E.U.E.	
Collar	UPSET						UPSET	UPSET	UPSET	UPSET		
Complete Assembly	Part No.	35696	6104	B-13548	39405	39406	18661	39407	39408	39409	39410	39226
	Weight	8-3/8	7-1/2	9	8	8	9	8-1/2	8-1/2	5-1/2	12-1/2	10-1/2

Replacement Parts

Packer Insert	Part No.	4672-D	6114-D	A-2487-D	B-2199-1-D	195-D	1140-D	B-2199-D	B-2362-D	B-6387-D	B-2455-D	4505-D
	Weight	8	7	8-1/2	7-1/2	7-1/2	8-1/2	8	8	10	12	10
Spring	Part No.	914	6129	6129	6129	6129	18662	6129	6129	39236	39236	39236
	Weight	3/8	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
"O" RING	Part No.	30-14	30-15	30-15	30-15	30-15	30-15	30-15	30-15	30-19	30-19	30-19
	Weight	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32	1/32

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Size and complete description of tubing collar
- (3) Any desired spares, by name and part number

RECOMMENDED SPARE PART:
(1) 3 "O" Rings

Miscellaneous O-Ring Seals are normally furnished in sealed plastic bags of 10, 25, or 100 pieces each to prevent deterioration. Other quantities will be furnished in unsealed packages. Packing Sets, however, will always be furnished in sealed plastic bags.

High Pressure Pack-off Assemblies

The **High Pressure Pack-off Assembly** is a special assembly for use in areas of extreme pressure. It consists of a Bushing and four packing elements. It is normally installed between the Bowl and the Guide of the Overshot.

High Pressure Pack-off Assemblies for Series 150 Overshots

Use with Overshot No.	9105	9109	5896	8975	6655	8741	9163	9163
Overshot Catch Size	3-1/8	3-21/32	4-1/4	4-3/4	5-1/4	6-1/4	6-3/8	6-3/8
Overshot O.D.	4-1/8	4-11/16	5-9/16	5-3/4	6-3/8	7-5/8	7-3/4	7-3/4
Complete Assembly	Part No.	10255	10260	10357	10265	13595	21091	*22118 13770
	Weight	34	41	66	65	92	121	116 116

Replacement Parts

Bushing	Part No.	10256	10261	10358	10266	13596	21092	22119	13771
	Weight	18	21	34	33	52	69	68	68
Packer (Includes O-Ring) (4 Req'd.)	Part No.	809-HP	6665-HP	169-HP	6114-HP	4505-HP	1642-HP	223-HP	5508-HP
	Weight	4	5	8	8	10	13	12	12
O-Ring Seal (4 Req'd., 1 per Packer)	Part No.	30-14	30-18	30-27	30-27	30-32	30-38	30-38	30-39
	Weight	1/100	1/100	1/100	1/100	1/50	1/50	1/50	1/50

* This assembly is installed between Top Sub and Bowl. All others are installed between Bowl and Guide.

How to Order

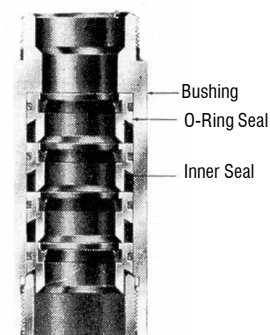
Specify:

- (1) Name and number of overshot
- (2) Size of fish to be caught

RECOMMENDED SPARE PARTS:

- (1) 2 Sets of Packers (4 per Set)
- (2) 8 "O" Rings

Miscellaneous O-Ring Seals are normally furnished in sealed plastic bags of 10, 25, or 100 pieces each to prevent deterioration. Other quantities will be furnished in unsealed packages. Packing Sets, however, will always be furnished in sealed plastic bags.



**High Pressure
Pack-off Assembly**

Type R Replaceable Inner Seals for Mill Control Packers

Listed in Numerical Order of Mill Control Packer Part Numbers:

Packer No.		98R	98RS	110R	111R	113R	168R	169R	195R	207R	223R	235R	A756R
Outer Seal	Part No.	30-43	30-42	27-62	27-68	30-33	30-18	30-22	27-52	30-39	27-64	27-72	30-32
Packer No.		809R	L809R	811R	A811R	856R	B972R	1025R	1060R	1140R	1189R	1253R	1453R
Outer Seal	Part No.	30-11	30-11	30-18	30-18	30-19	30-19	30-41	30-46	30-25	30-28	30-17	30-6
Packer No.		L-1453R	A-1508R	1517R	L1517R	1634R	1642R	1680R	A1707R	A1814R	A1831R	A1867R	1966R
Outer Seal	Part No.	30-6	30-24	30-14	30-14	30-38	30-37	27-65	30-19	30-38	30-11	30-21	27-74
Packer No.		A1966R	1969R	A1969R	A2196R	B2199R	B2199-1R	2362R	2372R	B2436R	B2455R	B2487R	L3064R
Outer Seal	Part No.	27-74	27-74	27-76	30-19	30-26	30-24	30-26	30-38	30-24	30-27	30-24	30-24
Packer No.		B3219R	B3395R	B3479R	B3594R	B4154R	4185R	4398R	4505R	4505RS	B4520R	B4625R	4672R
Outer Seal	Part No.	30-17	30-8	30-34	30-12	30-41	30-19	30-11	30-30	30-28	30-30	30-15	30-22
Packer No.		B4672R	B4895R	B5075R	B5089R	B5107R	B5118R	5157R	B5157R	B5180R	B5188R	B5199R	B2509R
Outer Seal	Part No.	30-22	30-20	30-6	30-7	30-12	30-14	30-20	30-20	30-32	30-33	30-36	30-37
Packer No.		B5217R	B2225R	B5236R	B5244R	B5252R	5260R	B5260R	B5268R	B5287R	B5300R	B5308R	B5316R
Outer Seal	Part No.	30-39	30-39	30-42	30-43	30-43	30-43	30-43	30-44	30-44	30-47	30-48	27-64
Packer No.		5324R	B5324R	5332R	B5347R	B5357R	5508R	B5538R	5950R	L5950R	6114R	L6163R	6310R
Outer Seal	Part No.	30-48	30-47	30-52	30-38	30-41	30-38	30-18	30-28	30-28	30-25	30-18	30-40
Packer No.		B6364R	B6387R	6515R	B6635R	6665R	L6665R	6697R	L7065R	L7090R	B7104R	8550R	8618R
Outer Seal	Part No.	30-46	30-27	30-15	27-66	30-17	30-17	30-33	30-16	30-13	30-42	30-11	30-31
Packer No.		8947R	8956R	8985R	9005R	9020R	9033R	9055R	9103R	9122R	9136R	9203R	9209R
Outer Seal	Part No.	30-30	30-46	30-39	30-37	30-27	30-33	30-45	30-46	30-17	30-38	30-32	30-30
Packer No.		9215R	9224R	L9224R	9231R	9237R	B9240R	9243R	9250R	9298R	B9299R	9309R	9407
Outer Seal	Part No.	30-32	30-39	30-39	30-40	30-41	30-12	30-41	30-43	30-42	30-19	30-6	MS9021-32
Packer No.		9855R	9865R	B10202R	10368R	B11826R	12695R	B12825R	15255R	15805R	16398R	17423	21303
Outer Seal	Part No.	30-42	30-37	30-5	30-1	30-29	30-42	30-49	30-50	27-78	30-4	30-17	30-15
												30-51	

ADHESIVE: Bowen has developed an adhesive which is particularly suited to bonding Type R Inner Seals to Mill Control Packers. It is composed of two compounds, an epoxy resin with strengthening material and a catalyst, which are mixed prior to using. Bowen Adhesive Compound No. 1 (Resin) Part No. 41241-1 and Bowen Adhesive Compound No. 2 (Catalyst) Part No. 41241-2. One-pint cans.

NOTE: Use the Same Outer Seal for Type R and Type E Mill Control Packer

How to Order

Specify

- (1) Mill control packer number
- (2) Fish size
- (3) Outer seal number

RECOMMENDED SPARE PARTS:

- (1) 3 Outer Seals
- (2) Bowen Adhesive



Outer Seal

Corporate Headquarters

10000 Richmond Avenue
Houston, Texas 77042
United States
Phone: 713 346 7500
Fax: 713 346 7959

Alaska

4111 Ingra
Anchorage, Alaska 99503
United States
Phone: 907 563 5253
Fax: 907 561 0071

California

4117 Atlas Court
Bakersfield, California 99308
United States
Phone: 661 395 0165
Fax: 661 328 1827

Louisiana

108 Nova Drive
Broussard, Louisiana 70518
United States
Phone: 337 839 2400
Fax: 337 839 2211

190 Thompson Road
Houma, Louisiana 70363
United States
Phone: 985 851 1111
Fax: 985 851 1117

Mississippi

2930 Industrial Blvd.
Laurel, Mississippi 39440
United States
Phone: 601 649 8671
Fax: 601 649 8673

New Mexico

#14 CR 5860
Farmington, New Mexico 87401
United States
Phone: 505 326 4303
Fax: 505 326 4304

North Dakota

3202 1st Avenue West
Williston, North Dakota 58801
United States
Phone: 701 774 0091
Fax: 701 774 0092

Oklahoma

3800 Thomas Road
Oklahoma City, Oklahoma 73179
United States
Phone: 405 677 2484
Toll Free: 877 760 1711
Fax: 405 677 2457

Texas

1249 Commerce Road
Alice, Texas 78332
United States
Phone: 361 664 8013
Fax: 361 664 0462

8411 Irvington Boulevard*
Houston, Texas 77022
United States
Phone: 713 691 7800
Fax: 713 691 7807

2810 Highway 135 North
Kilgore, Texas 75662
United States
Phone: 903 984 2553
Fax: 903 984 7170

10720 West I-20 East
Odessa, Texas 79765
United States
Phone: 432 563 1173
Fax: 432 563 1182

30444 Southwest Freeway
Rosenberg, Texas 77471
United States
Phone: 281 341 5365
Fax: 281 344 1986

Utah

1553 East Highway 40
Vernal, Utah 84078
United States
Phone: 435 789 0670
Fax: 435 789 6568

West Virginia

Route 2, Murphy Run Road
Clarksburg, West Virginia 26301
United States
Phone: 304 622 4303
Fax: 304 623 2174

Wyoming

1283 N. Derrick Drive
Unit 1, Box 2
Casper, Wyoming 82604
United States
Phone: 307 237 3100
Fax: 307 237 2546

Canada

9120 – 34A Avenue
Edmonton, Alberta T6E 5P4
Canada
Phone: 780 702 5209
Fax: 780 463 2348

3550 93 Street*
Edmonton, Alberta T6E 5N3
Canada
Phone: 780 944 3929
Fax: 780 430 0760

1100 540 5th Avenue SW (Mailing)
1010 540 5th Avenue SW (Office)
Calgary, Alberta T2P 0M2
Canada
Phone: 403 250 8000
Fax: 403 294 5790

England

2 Isbourne Way
Winchcombe
Cheltenham
Glos, GL54 5NS
England
Phone: 44 (0) 1242 603975
Fax: 44(0) 1242 602614

Dubai

Nr. R/A 13, Daimler Chrysler Street
P.O. Box 61490
Jebel Ali Free Zone
Dubai
UAE
Phone: 971 4 8838776
Fax: 971 4 8838795

Indonesia

Cilandak Commercial Estate Unit 105
Jl. Raya Cilandak KKO
P.O. Box 7541
Jakarta, 12560
Indonesia
Phone: 62 21 782 6088
Fax: 62 21 782 6086

Scotland

10 Kirkton Avenue
Pitmedden Road Industrial Estate
Dyce, Aberdeen AB21 0BF
Scotland
Phone: 441 224 334800
Fax: 441 224 723034

Singapore

9 Tuas Avenue 5
Singapore, 639335
Singapore
Phone: 65 68611566
Fax: 65 68610728

Germany

Edesser Straße 1
31234 Edemissen Berkhöpen
Postfach 31232
Germany
Phone: 49 5176 97670
Fax: 49 5176 9767 22

* Denotes Manufacturing and Engineering facilities

Downhole Solutions

Drilling Solutions

Engineering and Project Management Solutions

Lifting and Handling Solutions

Production Solutions

Supply Chain Solutions

Tubular and Corrosion Control Solutions

Well Service and Completion Solutions